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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,964	09/09/2003	Dale A. Sylvan	202241-0028	3142

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EXAMINER

KRAMER, DEVON C

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,964

Applicant(s)

SYLVAN ET AL.

Examiner

Devon C Kramer

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7 state, "a spring biasing the disc face against the plate face". It appears in the figures that the spring is biasing the plate face against the disc face.

Claim 1, states, "a brake plate mounted to be relatively stationary, the brake plate thereby rotating with respect to the brake disc". It appears that the brake plate does not rotate, but translates on the shaft in the axial direction. It is unclear to the examiner how something can be stationary and rotate. Please note that claim 7 states something similar to that cited in reference to claim 1.

Claim 7, cites "a brake disc movable between an engaged position and a retracted position". Though the brake disk does engage the brake plate, it appears that it is the brake plate that moves to engage the brake disc.

Claim Rejections - 35 USC § 103

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4) Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (6155386) in view of Payne (1756907).

In reference to claims 1, 7 and 15, Hirai et al teaches a braking system for a shaft (12) mounted for rotation, the braking system comprising: a brake disc (4) coupled to the shaft for rotation therewith, the disc including a disc face having a disc contact surface (5); a brake plate (3) mounted to be relatively stationary, the brake plate including a plate face positioned substantially parallel and adjacent to the disc face, a spring (6) biasing the plate face against the disc face, a coil (2) that is powered to create a magnetic field to move the brake disc between an engaged and retracted position. Hirai et al lacks the teaching of the plurality of plateaus and recesses on both the brake disc and the brake plate. Please see the rejection of claim 2 below for the specific angle limitation.

Payne teaches a plurality of plateaus, ramps and recesses on engaging surfaces (figures 3-4), which are capable of use in brakes (Col. 1 lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the contacting disc and plate surfaces of Hirai et al with the

plurality of plateaus and recesses as taught by Payne in order to positively lock the plate to the disc in order to prevent further relative motion.

In reference to claims 2, 4-6, 11, 14, Payne is silent to the angle of the ramps.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ramps of Payne with an angle of 10 degrees relative to the disc face merely because it would have been a design choice based on the materials used and the force desired to be absorbed by the ramps. Further, please note that it would have been obvious to make the ramp angles 10 degrees since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

IN reference to claims 3, 10, 12-13 and 16, Payne teaches three plateaus.

Please note that applicant does not claim only three plateaus. Further, please note that it would have been obvious to vary the number of plateaus and recesses since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

In reference to claims 8-9, Pane teaches an arrangement where the number of plate plateaus equals the number of disc plateaus and the ramps are all the same angle.

Conclusion


5) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Neff, Russ et al, Pfann et al, Hossfield et al, Endo et al, Summa, Spencer '822, Miller et al and Spencer '437 all provide electromagnetic brakes or clutches with similar features to the instant application.

6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK


4-21-04